Flight-Testing Newton's Laws					
2002 Science					
Utah Science Curriculum					
Grades 9-12 (Physic	re)				
Activity/Lesson	State	Standards			
Session-10 (1-5)	UT	SCI.9-12.1.2.d	Describe the acceleration of an object moving in a circular path at constant speed (i.e., constant speed, but changing direction).		
Session-10 (1-5)	UT	SCI.9-12.2.2.c	Determine the relationship between force, mass, and acceleration from experimental data and compare the results to Newton's second law. Predict the combined effect of multiple forces		
Session-10 (1-5)	UT	SCI.9-12.2.2.d	(e.g., friction, gravity, and normal forces) on an object's motion.		
Session-1 (1-17)	UT	SCI.9-12.1.2.d	Describe the acceleration of an object moving in a circular path at constant speed (i.e., constant speed, but changing direction).		
Session-1 (1-17)	UT	SCI.9-12.2.2.c	Determine the relationship between force, mass, and acceleration from experimental data and compare the results to Newton's second law.		
Session-1 (1-17)	UT	SCI.9-12.2.2.d	Predict the combined effect of multiple forces (e.g., friction, gravity, and normal forces) on an object's motion.		
Session-1 (1-17)	UT	SCI.9-12.3.1.d	Explain how evidence and inference are used to describe fundamental forces in nature, such as the gravitational force. Research the importance of gravitational forces		
Session-1 (1-17)	UT	SCI.9-12.3.1.e	in the space program.		
Session-1 (1-17)	UT	SCI.9-12.4.1.b	Calculate the kinetic energy of an object given the velocity and mass of the object.		
Session-2 (1-10)	UT	SCI.9-12.2.2.c	Determine the relationship between force, mass, and acceleration from experimental data and compare the results to Newton's second law. Predict the combined effect of multiple forces		
Session-2 (1-10)	UT	SCI.9-12.2.2.d	(e.g., friction, gravity, and normal forces) on an object's motion.		
Session-2 (1-10)	UT	SCI.9-12.3.1.a	Investigate how mass affects the gravitational force (e.g., spring scale, balance, or other method of finding a relationship between mass and the gravitational force).		
Session-2 (1-10)	UT	SCI.9-12.3.1.e	Research the importance of gravitational forces in the space program.		
Session-3 (1-6)	UT	SCI.9-12.1.2.d	Describe the acceleration of an object moving in a circular path at constant speed (i.e., constant speed, but changing direction).		
Session-3 (1-6)	UT	SCI.9-12.2.2.c	Determine the relationship between force, mass, and acceleration from experimental data and compare the results to Newton's second law.		

			Calculate the kinetic energy of an object given
Session-3 (1-6)	UT	SCI.9-12.4.1.b	the velocity and mass of the object.
			Predict the combined effect of multiple forces
Session-4 (1-11)	UT	SCI.9-12.2.2.d	(e.g., friction, gravity, and normal forces) on an object's motion.
36331011-4 (1-11)	01	301.9-12.2.2.0	object's motion.
			Determine the relationship between the net
Session-5 (1-6)	UT	SCI.9-12.2.2.a	force on an object and the object's acceleration.
			Determine the relationship between force, mass,
Session-5 (1-6)	UT	SCI.9-12.2.2.c	and acceleration from experimental data and compare the results to Newton's second law.
00331011-3 (1-0)	01	001.0-12.2.2.0	Describe the acceleration of an object moving in
			a circular path at constant speed (i.e., constant
Session-6 (1-8)	UT	SCI.9-12.1.2.d	speed, but changing direction).
			Determine the veletionship het was a favor
			Determine the relationship between force, mass, and acceleration from experimental data and
Session-6 (1-8)	UT	SCI.9-12.2.2.c	compare the results to Newton's second law.
		00.00 12.2.2.0	Predict the combined effect of multiple forces
			(e.g., friction, gravity, and normal forces) on an
Session-6 (1-8)	UT	SCI.9-12.2.2.d	object's motion.
			Determine the relationship between force, mass,
			and acceleration from experimental data and
Session-7 (1-5)	UT	SCI.9-12.2.2.c	compare the results to Newton's second law.
			Predict the combined effect of multiple forces
			(e.g., friction, gravity, and normal forces) on an
Session-7 (1-5)	UT	SCI.9-12.2.2.d	object's motion.
Session-8 (1-9)	UT	SCI.9-12.1.2.e	Analyze the velocity and acceleration of an object over time.
00331011-0 (1-3)	01	001.0-12.1.2.0	object over time.
			Determine the relationship between force, mass,
			and acceleration from experimental data and
Session-8 (1-9)	UT	SCI.9-12.2.2.c	compare the results to Newton's second law.
			Determine the relationship between the net
Session-9 (1-7)	UT	SCI.9-12.2.2.a	force on an object and the object's acceleration.
		3 3 10 12 12 12 13	Relate the effect of an object's mass to its
			acceleration when an unbalanced force is
Session-9 (1-7)	UT	SCI.9-12.2.2.b	applied.
			Determine the relationship between force, mass,
			and acceleration from experimental data and
Session-9 (1-7)	UT	SCI.9-12.2.2.c	compare the results to Newton's second law.